REMARKS

Applicant has carefully reviewed and considered the Final Office Action mailed February 24, 2004, and the references cited therewith. Claim 1 is currently amended, and claims 116-117 are added; as a result, claims 1-78, 89-117 are now pending in this application. Please charge any required fees or credit overpayment to deposit account 502931.

Election/restriction

The Examiner required restriction to one of the following:

I. Claims 1-34, 65-78, and 101-107 drawn to a method in class 427 subclass 115

II. Claims 107 (sic, 108)-115 drawn to an apparatus in class 118 subclass 720

The Examiner withdrew claims 108-115 in the body of the Office Action, but indicated on the cover sheet that claims 35-64 and 89-100 were withdrawn. Applicant respectfully traverses restricting or withdrawing any of the pending claims. Each limitation in each respective apparatus claim 108-115 is a means-plus-function where the recitation of each function is **the same** as the corresponding limitation in the respective method claim 1-8. According to MPEP 809.03, the means-plus-function claim 108 forms a linking claim that, if allowable, makes the above claims inseparable.

Further, regarding previous restriction and withdrawal of claims 35-64, newly added claim 116 forms a linking claim between claim 1 and withdrawn method claim 35 and apparatus claim 57. Because the linking claims, if allowable, make the claims inseparable, the restriction should be withdrawn, and accordingly reconsideration is respectfully requested. Once the linking claims are allowed, Applicant requests the opportunity to correct the antecedent basis errors in the claims (e.g., referring to third/fourth films in claim 35). Reconsideration and withdrawal of the restriction requirement is respectfully requested.

Yet further, regarding previous restriction and withdrawal of claims 89-100, newly added claim 117 forms a linking claim between claim 57 and withdrawn apparatus claim 89. Because the linking claims, if allowable, make the claims inseparable, the restriction and withdrawal of claims 89-100 should be removed, and accordingly reconsideration is respectfully requested.

§112 Rejection of Claim 25

Claim 25 was rejected under 35 USC § 112(b) as being indefinite. Applicant respectfully traverses. The numbering of layers and materials is solely to distinguish layer from layer or material from material, and does not in itself imply order or cardinality. Thus the recitation of fifth material and sixth material does not mean there must be 6 layers or materials, nor does it imply that there should be a fourth layer. Thus claim 25 recites that "forming the electrolyte **second layer** on the first layer includes depositing a **fifth material** to a location on the substrate and at least partially in contact with the first layer, and supplying **energized ions of a sixth material different than the fifth material** to the location on the substrate to form the electrolyte second layer." The meaning of this claim is clear on its face. Accordingly reconsideration and withdrawal of the rejection is respectfully requested.

In response to the Examiner's apparent confusion in changing "first" to "fifth," Applicant submits that the change clarified the claim rather than changing scope, and as described above does not obliquely require 5 layers or imply anything about a "fourth" layer.

§102 Rejection of the Claims

Claims 1-7, 10-12, 26, 30, 33, 34 and 65 were rejected under 35 U.S.C. § 102(b) as being anticipated by Bhattacharyya et al. (US 4,333,808). Applicant respectfully traverses.

Regarding claim 1, Bhattacharyya et al. say nothing about an electrolyte, nor do they describe supplying an energized second material different than the first material towards the substrate adjacent the location to control growth of the first material at the location, as in the present claims. Rather, Bhattacharyya et al. describe implanting O+ or N+ to adjust stoichiometry excess of O+ or N+ (column 2 line 13), not to control growth. They later anneal to stabilize the oxide structure (column 2 line 17). The Office Action has thus failed to provide the recited elements of the present claims. In contrast, the present claimed invention provides the energized second material different than the first ... to control growth of the first material at the location. Thus claim 1 and its dependent claims appear not to be anticipated by the cited reference, and appear to be in condition for allowance. Accordingly, reconsideration and an early indication of allowance of claim 1 and its dependent claims is respectfully requested.

Regarding claim 65, Bhattacharyya et al. also say nothing about forming a seed film on

the substrate and then forming a first film on the seed film by depositing a first material to a location on the seed film, and supplying a second material different than the first material adjacent the location to control growth of a crystalline structure of the first material at the location. Applicant respectfully submits that the Office Action has failed to provide a prima facie case for anticipation. Thus, claim 65 and its dependent claims appear not to be anticipated by the cited reference, and appear to be in condition for allowance. Accordingly, reconsideration and an early indication of allowance of claim 65 and its dependent claims is respectfully requested.

Regarding claim 11, in addition to the shortcomings in the Office Action arguments described above, Bhattacharyya et al describe using 1 to 50 KeV (1000 eV to 50,000 eV), well outside the range claimed in claim 11 (5 eV to 200 eV). Accordingly, reconsideration and an early indication of allowance is respectfully requested.

Regarding claim 12, in addition to the shortcomings in the Office Action arguments described above, Bhattacharyya et al describe using ion implantation after the metal film is deposited, not during growing of the film of the first material. Thus, the reference is controlling the stoichiometry **after the first material is deposited**, not "of a growing film of the first material" as recited in claim 12. Accordingly, reconsideration and an early indication of allowance is respectfully requested.

As to claim 30, silicon warpage and "damage" is **not thermal degradation** of the material, as described and claimed. For this reason, as well as the additional reasons described for claim 1 above, this claim appears to be in condition for allowance. Accordingly, reconsideration and an early indication of allowance is respectfully requested.

As to claim 33, Bhattacharyya et al describe destroying the crystalline structure not controlling it (column 4 lines 31-33 "O+ and N+ is implanted within the metal oxide coating changes the crystalline structure to an amorphous structure), thus teaching away from the invention as described and claimed. For this reason, as well as the additional reasons described for claim 1 above, this claim appears to be in condition for allowance. Accordingly, reconsideration and an early indication of allowance is respectfully requested.

The Examiner argues claims 66 and 70 in paragraphs 14-17 of the Final Office Action, yet does not include these claims in the list of claims rejected under 102. Clarification is

respectfully requested.

As to claims 66 and 70, 67, 73, and 76, Bhattacharyya et al. describe a metal conductor layer into which or on top of which a metal oxide is deposited. This is not a seed layer (i.e., a layer that acts as a seed for crystal growth). They do not want a crystalline structure (column 4 lines 31-33 "O+ and N+ is implanted within the metal oxide coating changes the crystalline structure to an amorphous structure), thus teaching away from the invention as described and claimed. For this reason, as well as the additional reasons described for claim 1 above, these claims appear to be in condition for allowance. Accordingly, reconsideration and an early indication of allowance is respectfully requested.

Further regarding claim 67 and 73, the Office Action claims that certain surface free energies are inherent in the cited reference. Applicant respectfully traverses, and respectfully requests under MPEP 2144.03 that the Examiner cite a reference showing this to be the case.

Claims 1, 5, 28, and 29 were rejected under 35 U.S.C. § 102(a) as being anticipated by Vereda. Applicant respectfully traverses. Applicant notes that, although the publication indicates that a manuscript was "accepted" in January 2000, the publication date indicated in the International Search Report PCT/US 01/09437 for Vereda is August 2000, well after the March 24, 2000 filing date of the provisional 60/191,774 and perhaps the August 14, 2000 filing date for provisional 60/225,134, each of which the present application claims priority. These provisionals show a date of invention for the present application before the indicated publication date for Vereda. If the rejection is not withdrawn and an exact date of publication of Vereda can be shown, Applicants reserve the right to show an earlier date of invention than the filing dates of these provisional. Reconsideration of this rejection and an early indication of allowance is respectfully requested.

Claims 1, 3, 11, and 25 were rejected under 35 U.S.C. § 102(b) as being anticipated by USPN 4,730,383. Applicant respectfully traverses. Claim 1 has been amended to more clearly state the claimed invention. '383 describes creating lamellae of InSe using lines of electric charge laid in stripes on metal to form a charged grating that controls nucleation of the material being deposited. Applicant respectfully submits that '383 only says "It is seen from the foregoing that the

invention makes it possible to produce micro-miniaturized solid state batteries of high capacity, which, by their structure and dimensions, are perfectly compatible with the integrated circuits widely used in the domain of electronics. An integrated circuit, incorporating such a battery, offers complete operational independence in a volume which is only slightly larger. " This does not say the battery is formed on the IC, nor are the InSe lamellae deposited as a film layer on the substrate. Rather the description says the lamellae (walls perpendicular to the substrate formed on charged grating lines) are formed upright on a metallic substrate. Because this reference teaches away from forming a film layer using ion assist, and there is no indication that an IC or anything having a thermal degradation temperature is used, the reference is not applicable to those claims.

§103 Rejection of the Claims

Claims 8 and 9 were rejected under 35 USC § 103(a) as being unpatentable over Bhattacharyya et al. (US 4,333,808) and Mahoney et al. (US 6,086,962). Applicant respectfully traverses. Bhattacharyya et al. is discussed above, and fails to provide all the recited elements of claim 1 and 3. Accordingly, reconsideration and an early indication of allowance is respectfully requested.

Claims 13-15 were rejected under 35 USC § 103(a) as being unpatentable over Bhattacharyya et al. (US 4,333,808) and Mahoney et al. (US 6,086,962). Applicant respectfully traverses. Bhattacharyya et al. is discussed above, and fails to provide all the recited elements of claim 1 and 3. The Examiner cites to "Paragraphs 69 and 70," an obtuse reference that Applicant's do not understand upon reviewing the '962 patent as printed. Further, Mahoney is directed to making diamond films (DLCs), not batteries. This does not provide a motivation to combine. Accordingly, reconsideration and an early indication of allowance is respectfully requested.

Claims 18 and 19 were rejected under 35 USC § 103(a) as being unpatentable over Bhattacharyya et al. (US 4,333,808) and Turner et al. (US 6,203,944). Bhattacharyya et al. is discussed above, and fails to provide all the recited elements of claim 1. Accordingly, reconsideration and an early indication of allowance is respectfully requested.

Claims 19-24, 27 and 75 were rejected under 35 USC § 103(a) as being unpatentable over Bhattacharyya et al. (US 4,333,808) and Moriguchi et al. (US 6,576,369). Bhattacharyya et al. is discussed above, and fails to provide all the recited elements of claim 1. Further, the 369

reference discusses a graphite powder at column 8 line 14 et seq., not a solid-state deposited layer as described and claimed. Re Claim 24, the '369 column 26 line 8 et seq. describes a LiCoO2 powder (see column 26 line 33). Regarding claim 27, the '369 abstract discusses a powder, not a thin film. Accordingly, reconsideration of these claims and an early indication of allowance is respectfully requested.

Claims 17, 31 and 32 rejected under 35 USC § 103(a) as being unpatentable over Bhattacharyya et al. (US 4,333,808) and Bates et al. (US 5,567,210). Bhattacharyya et al. is discussed above, and fails to provide all the recited elements of claim 1. Further as to claims 31 and 32, silicon chips, while not functionally operated at temperatures of 250 or 300 C, are routinely manufactured using such temperatures. Bates deposits their battery on the chip package substrate (not the silicon chip 16), with no indication that the silicon chip is in place during the depositing or annealing of the battery. Further, Bates et al describe sintering of a pressed disc in air at 900 C (column 3 line 57) clearly indicating that their process would not harm the substrate using such temperatures. Accordingly, reconsideration and an early indication of allowance is respectfully requested.

Claims 68, 69 and 74 were rejected under 35 USC § 103(a) as being unpatentable over Bhattacharyya et al. (US 4,333,808) and Hobson (US 5,705,293). Bhattacharyya et al. is discussed above, and fails to provide all the recited elements of claim 65. Accordingly, reconsideration and an early indication of allowance is respectfully requested.

Claims 71 and 77 were rejected under 35 USC ' 103(a) as being unpatentable over Bhattacharyya et al. (US 4,333,808) and Narwankar et al. (US 6,475,854). Bhattacharyya et al. is discussed above, and fails to provide all the recited elements of claim 65. Accordingly, reconsideration and an early indication of allowance is respectfully requested.

Claims 101-107 were rejected under 35 USC ' 103(a) as being unpatentable over Bhattacharyya et al. (US 4,333,808) and Hunt (US 6,056,857). Bhattacharyya et al. is discussed above, and fails to provide all the recited elements of claim 101, in that the reference fails to describe an electrolyte, and teaches away from controlling crystal growth (rather, it teaches to change any crystalline structure to amorphous. The Office Action asserts motivation to combine since the Hunt reference yields a uniformly dense structure. While Hunt describes such structure, there is no indication in the references that such a uniformly dense structure is desirable in the

battery or other energy-storage device as constructed in the present claims. Accordingly, reconsideration and an early indication of allowance are respectfully requested.

Applicant has provided linking claims and has shown that the linking claims provide for an inseparable set of claims. Accordingly, reconsideration of the claims previously indicated as withdrawn and an early indication of allowance of all the pending claims are respectfully requested.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney (952-278-3501) to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 502931.

Respectfully submitted,

MARK L. JENSON

By his Representatives,

LEMAIRE PATENT LAW FIRM, PLLC
P.O. BOX 11358
ST. PAUL, MN 55111
TELEPHONE: (952) 278-3500

Date 17 Sept 2004 By Charles A Lemaire

Charles A Lemaire
Reg. No. 36,198

CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Commissioner for Patents, P.O.Box 1450, Alexandria, VA 22313-1450 on this 17th day of September, 2004.

Charles A Lemaire
Name

Charles A. Lemaire
Signature